UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
INSECTICIDE DIVISION

Patent List No. 30

A LIST OF
UNITED STATES PATENTS

Issued from 1917 to 1933 inclusive

relating to

NOZZLES FOR INSECTICIDE SPRAYERS

Compiled by

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Washington, D.C.
November, 1934

A LIST OF UNITED STATES PATENTS ISSUED FROM 1917 TO 1933, INCLUSIVE, RELATING TO NOZZLES FOR INSECTICIDE SPRAYERS

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These 50 patents describe nozzles suitable for use in spraying insecticides on fruit trees, cotton or truck crops.

Every effort has been made by the compiler to make this list of patents complete and no discrimination is intended against any patent mention of which is inadvertently omitted.

The Department of Agriculture assumes no responsibility for the merits or workableness of any of the patents, nor does it recommend any of the inventions listed.

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1,219,049 (Mar. 13, 1917; appl. July 29, 1915). SPRAYER. Louis J. Sticklin, Chehalis, Wash. - This appliance for spraying plants, shrubbery, etc., is designed for connection with the house water pressure supply, a hand pump, a pressure tank, or other forced feed.

1,221,861 (Apr. 10, 1917; appl. Dec. 12, 1916). SPRAY-GUN. John C. Hull, Gasport, N. Y. - This device comprises a spray-gun or nozzle for spraying fruit trees.

1,225,029 (May 8, 1917; appl. July 12, 1916). ATTACHMENT FOR SPRAY-RODS. Ralph W. E. Hayes, Galva, Ill. - One-half to Hayes Pump & Planter Co., Galva, Ill. - This invention provides a nozzle capable of adjustment to throw a long, narrow spray, or a wide-angle, cone-shaped spray; and provides means for quickly and easily changing from one form of spray to the other.

1,229,030 (June 5, 1917; appl. Nov. 13, 1913). SPRAYER-NOZZLE. Robert E. Cecil, Sewickley, Pa., - Air-Tight Steel Tank Co., Pittsburgh, Pa. - A sprayer nozzle, particularly designed for use in connection with spraying apparatus for trees and other vegetation is described.

1,232,489 (July 10, 1917; appl. Aug. 28, 1916). SPRAYER. Alvan B. Brown, Grand Rapids, Mich., - One-half to Charles H. Field, Grand Rapids, Mich. - A nozzle for an insecticide sprayer is described.

1,246,092 (Nov. 13, 1917; appl. Oct. 28, 1916). SPRAYING-NOZZLE. Henry H. Hardie, Hudson, Mich., - The Hardie Mfg. Co., Hudson, Mich. - A nozzle designed for spraying trees is described.

1,253,245 (Jan. 15, 1918; appl. Mar. 20, 1917). SPRAY-GUN. John C. Hull, Gasport, N. Y. - This device can be regulated to vary the character and range of the spray delivered.

1,255,405 (Feb. 5, 1918; appl. July 28, 1913, divided and appl. June 3, 1915). SPRINKLING OR SPRAYING DEVICE. Bert L. Gifford, Barker, N. Y. - Gifford Mfg. Co., Barker, N. Y. - This spraying nozzle is equipped with a twirler which is so constructed that it will not become clogged in spraying insecticide liquid and which will create a fog or mist, eject a fine spray, or a drop spray resembling rain.

1,268,232 (June 4, 1918; appl. Feb. 3, 1915). SPRAYING DEVICE. George B. Furman, East Orange, N. J. - A compressed air sprayer for germicides or other liquids is described.

1,268,709 (June 4, 1918; appl. Dec. 20, 1917). SPRAY-POLE. Willis H. Gill, Grandview, Wash. - This spray-pole for spraying trees can be turned without turning the hose leading to the nozzle and can be manipulated from a distance of about 6 to 8 feet from the nozzle.

1,322,932 (Nov. 25, 1919; appl. May 31, 1918). SPRAY-GUN. Philip A. Myers, Ashland, Ohio. - F. E. Myers and Brother, Ashland, Ohio. - This device can be regulated to vary the type of spray or to cause a solid stream to be thrown, as in spraying tall trees.

1,328,721 (Jan. 20, 1920; appl. Nov. 26, 1918). SPRAY-GUN. Frederick E. Crummey, San Jose, Calif., - Bean Spray Pump Co., San Jose, Calif. - This spray gun is designed so that the discharge may be accurately regulated to all variations between a fine spray fog or cloud of low velocity, to a relatively solid stream of spray of high velocity, maximum projection and greatest volume.

1,343,780 (June 15, 1920; appl. Sept. 1, 1917). SPRAY-GUN. Arthur B. Hull, Gasport, N. Y. - This nozzle is adapted for use in spraying fruit trees.

1,345,598 (July 6, 1920; appl. Jan. 29, 1918). SPRAYER. Oscar W. Johnson and Robert Milne, Rockford, Ill., - Ward Pump Co., Rockford, Ill. - This device is intended for spraying trees, shrubbery and the like for immunizing and freeing them of insect growth. The spray can be varied from a widely scattered to a narrow stream-like character.

1,348,631 (Aug. 3, 1920; appl. Jan. 20, 1919). SPRAYING DEVICE. William L. Deming and Charles Cornwall, Salem, Ohio, - The Deming Co., Salem, Ohio, - This device for use in spraying insecticide on trees, plants, etc., can be regulated to vary the

fineness of the spray. A shield prevents dripping of the liquid on the operator.

1,361,526 (Dec. 7, 1920; appl. Feb. 20, 1919). ATOMIZER. George McD. Johns, St. Louis, Mo. - W. N. Matthews and Brother, Inc., St. Louis, Mo. - A spray gun suitable for spraying trees is described.

1,361,527 (Dec. 7, 1920; appl. Feb. 20, 1919). ATOMIZER. George McD. Johns, St. Louis, Mo. - W. N. Matthews and Brother. Inc., St. Louis, Mo. - An atomizer adapted for spraying paints, insecticides, etc., in described.

1,361,979 (Dec. 14, 1920; appl. Nov. 23, 1917). SPRAYING DEVICE. Bert L. Gifford, Barker, N. Y., - Gifford Mfg. Co., Barker, N. Y. - This spray-gun is adapted for use with a liquid insecticide.

1,382,684 (June 28, 1921; appl. Aug. 15, 1918). NOZZLE. Edmund W. Shimper, Irvington, N. J. - This hose nozzle has attached means for producing a suction in the nozzle so that a fluid may be drawn into the nozzle and mixed with the water. It is adapted for use in spraying disinfectants, fertilizers, germicides, etc.

1,452,264 (Apr. 17, 1923; appl. Mar. 9, 1921). ADJUSTABLE SPRAY NOZZLE. Harry D. Binks, River Forest, Ill. - This nozzle for appliances for spraying liquids provides means for adjusting the quantity of the spray and for indicating the adjustment

1,462,020 (July 17, 1923; appl. Oct. 10, 1921). SPRAY NOZZLE. John D. Murray, San Francisco, Calif. - This nozzle is particularly applicable for spraying germicides on trees, or for paint, whitewash, etc.

1,465,580 (Aug. 21, 1923; appl. Apr. 15, 1920; renewed July 9, 1923). NOZZLE. James C. Findlay, San Francisco, Calif. - This nozzle is especially adapted for spraying liquids of greater specific gravity than water, such as dipping fluids for sheep and cattle.

1,473,840 (Nov. 13, 1923; appl. Mar. 10, 1920). DISINFECTING NOZZLE. Hector Falletta, San Francisco, Calif. - A nozzle wherein a liquid germicide is mixed with and projected by water is described.

1,497,462 (June 10, 1924; appl. Apr. 21, 1923). SPRAY GUN. Richard T. Osburn, Berryville, Va. - A spray gun has an angularly disposed nozzle and is designed primarily for use in spraying trees and plants.

1,509,222 (Sept. 23, 1924; appl. Feb. 24, 1920). SPRAYING APPARATUS. George G. Bayne, Bushnell, Ill. - This spraying apparatus is particularly designed for liquids containing solids in suspension

such as insecticides, and is provided with pneumatic means for agitating the liquid to keep the solids in suspension.

1,510,175 (Sept. 30, 1924; appl. June 11, 1923). SPRAYING DEVICE. Frank C. Kinnear, New Waterford, Ohio. - This device consists of a spraying gun provided with a peculiar form of deflector located just beyond the nozzle of the gun which deflects the spray into the form of a crescent in cross section. In spraying a tree from the top downwards, the use of this device effects a saving in the spraying material of from 30 to 40 percent.

1,529,531 (Mar. 10, 1925; appl. Sept. 18, 1924). SPRAY NOZZLE. George L. Young, South Shields, England. - This multiple spray nozzle, which is suitable for use in sprayers for disinfectants, can be adapted to varying consistencies of liquid and to increase the area over which the liquid is delivered.

1,567,743 (Dec. 29, 1925; appl. Apr. 26, 1922). LIQUID SPRAYER. Don E. MacDonald and Lafayette Van Alst, Batavia, N. Y., - R. E. Chapin Mfg. Works, Batavia, N. Y. - This hand sprayer is of the type used for spraying trees, bushes and plants with vermin-destroying or other liquid.

1,571,629 (Feb. 2, 1926; appl. July 13, 1923). SPRAYER. Etienne Huge, Indret, France. - This device is intended for use in projecting water for horticultural purposes and for spraying disinfecting liquids.

1,580,246 (Apr. 13, 1926; appl. Aug. 16, 1921). ATOMIZER. Harley H. Heller, Sound Beach, Conn. - This atomizer can be substituted for the ordinary closure of the can or container in which an insecticide or similar liquid is supplied.

1,610,714 (Dec. 14, 1926; appl. Jan. 20, 1925). SPRAYER. Samuel L. Smith, Ellensburg, Wash. - This spray-forming device is adapted to be connected with a hose or conduit through which water under pressure is supplied.

1,614,520 (Jan. 18, 1927; appl. Oct. 15, 1924). SPRAYING DEVICE. James A. Brown, Bristol, Tenn. - This spray device control mechanism can be used as an attachment to already existing spray devices of a well-known type. It enables use of the spray nozzle at a point very close to the ground so that the under sides of leaves may be sprayed for the purpose of killing insects or treating plant diseases.

1,651,466 (Dec. 6, 1927; appl. Feb. 25, 1922). PAINT SPRAYER. Harvey O. Norris, Dayton, Ohio. - George W. Simons, Dayton, Ohio. - This paint sprayer of the air brush type is also applicable for use with disinfectants, insecticides or other liquids.

1,652,372 (Dec. 13, 1927; appl. Feb. 27, 1926; in Great Britain Apr. 28, 1925). ATOMIZER. Harry S. F. R. O'Brien, London, England. - In this atomizer for liquid insecticides or germicides, air or gas is intimately mixed with the liquid to form a fine mist.

1,654,381 (Dec. 27, 1927; appl. Sept. 23, 1925). SPRAYING NOZZLE. Thomas W. Murphy, Delair, N. J. and Wladyslaw Czarnecki, Philadelphia, Pa., - Monarch Mfg. Works, Inc., Philadelphia, Pa. - This nozzle is for use in spraying trees, plants, soil, etc.

1,686,885 (Oct. 9, 1928; appl. Apr. 7, 1924). SPRAY GUN. George E. Trisler, Salem, Ohio, - The Deming Co., Salem, Ohio. - This device is for use in spraying insecticide on trees, plants, etc. It is an improvement on that described in U. S. Patent 1,348,-631 issued Aug. 3, 1920 to W. L. Deming and C. Cornwall.

1,702,214 (Feb. 12, 1929; appl. July 19, 1927). SPRAYER ATTACHMENT FOR HOSE NOZZLES. John Krč, Wallis, Tex. - This invention provides a sprayer attachment for hose nozzles of the type employed for spraying an insecticide or the like on growing plants, more particularly cotton.

1,704,498 (Mar. 5, 1929; appl. Aug. 14, 1926). SPRAY GUN. William L. Deming, Salem, Ohio, - Deming Co., Salem, Ohio. - This spray gun, although primarily designed for automobile washing, may be used for spraying disinfecting liquids for destroying insect pests and fungi on fruit trees and other plants.

1,712,195 (May 7, 1929; appl. Dec. 20, 1927). FRUIT-SPRAY GUN. George C. Brown, Yakima, Wash. - This invention provides a simple auxiliary valve mechanism for stopping the flow of liquid through a nozzle or spray-gun used for spraying fruit trees.

1,728,455 (Sept. 17, 1929; appl. Feb. 28, 1928). COMBINED ROD AND GUN. Ernest C. Taylor and David B. Mackie, Sacramento, Calif. - This device for spraying trees, hedges and the like to kill insects combines a spray-rod and gun.

1,740,241 (Dec. 17, 1929; appl. Oct. 8, 1925). SPRAY GUN. John C. Hull, Gasport, N. Y. - This device for spraying insecticides is adapted for use close to the ground for underneath spraying.

1,743,370 (Jan. 14, 1930; appl. June 12, 1928). SPRAY-POLE DEVICE. Joseph Messmer, St. Louis, Mo., - Messmer Brass Co., St. Louis, Mo. - The angle of the spray from this device can be varied for spraying the lower and higher boughs of trees.

1,747,670 (Feb. 18, 1930; appl. July 30, 1927). SPRAY GUN. Arthur B. Hull, Gasport, N. Y., - Friend Mfg. Co., Gasport, N. Y. - This spray gun is provided with a multi-purpose nozzle head.

1,748,004 (Feb. 18, 1930; appl. Apr. 11, 1927). SPRAYER NOZZLE. Norman J. Urquhart, Detroit, Mich., - Two-thirds to Harry W. Thomas, Detroit, Mich. - This nozzle is adapted for use in spraying poison dust over vegetation.

1,786,889 (Dec. 30, 1930; appl. June 6, 1927). SPRAYER. Henry E. Brandt, St. Paul, Minn., - The Dobbins Mfg. Co., North St. Paul, Minn. - This insecticide sprayer will accommodate mixtures of varying viscosity and comprises means for adjusting the degree of atomization of the spraying mixture.

1,829,043 (Oct. 27, 1931; appl. Apr. 13, 1927; Renewed Jan.5, 1931.) SPRAYER. William L. Hamilton, Bangor, Mich. - The character of the spray from this sprayer for fruit trees and the like can be greatly varied.

1,847,964 (Mar. 1, 1932; appl. June 29, 1929). SPRAY NOZZLE. John C. Hull, Gasport, N. Y., - "Friend" Mfg. Co., Gasport, N. Y. - This nozzle for spraying vegetables and fruits is provided with a strainer to prevent clogging.

1,884,485 (Oct. 25, 1932; appl. Dec. 31, 1929). SPRAY GUN. Oliver P. Yost, Grand Rapids, Mich., - Food Machinery Corp. - This device for spraying insecticides or fungicides on plants and trees is an improvement on U. S. patent 1,432,958 issued Oct. 24, 1928 to Boyce.

1,901,806 (Mar. 14, 1933; appl. June 22, 1922). ATOMIZER. Thomas J. Fulton, Fresno, Calif. - Food Machinery Corp., San Jose, Calif. - An atomizer for applying liquid insecticides, fungicides or the like to fruit trees, vines, bushes or plants to destroy insects or fungus plants is described.

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ASSIGNEE INDEX

(Numbers refer to patents cited)

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